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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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In re Application of: K. NAKAMURA et al : Art Unit: 1752  
Serial No. : 10/657,509 :  
Filed : September 8, 2003 : Examiner: T.  
Title : SILVER SALT PHOTOTHERMO- : Chea  
GRAPHIC DRY IMAGING :  
MATERIAL :  
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DECLARATION

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

S i r:

I, Kiyoshi Fukusaka, hereby declare and say as follows:

1. I am one of the inventors of the above-identified patent Application.

2. I received a Master's degree in chemistry from the University of Tsukuba in 1997. Since that time, I have been employed by Konica Corporation (now Konica Minolta Medical & Graphic, Inc.) the Assignee of the above-identified Application. During my employment at Konica, I have engaged in the research and development of photographic materials.
3. I am aware that the above-identified patent Application has been rejected based on Oya (US 2001/0051319), Fukui (US 2002/0102502) and Patent Specification 1543266 (PS '266). Two tests have been performed and are reported herein. The first test demonstrates that a photothermographic material having a reducing agent of formula (1) is superior to a photothermographic material having a reducing agent not of formula (1) as disclosed by Oya. The second test demonstrates that a photothermographic material having a reducing agent of formula (1) is superior to a photothermographic material having a reducing agent not of formula (1) as disclosed by Fukui. These tests were performed by myself or under my direct supervision and control

4. Comparative photothermographic material Sample 1 was prepared in accordance with photothermographic material 203 of Oya disclosed in Table 2 at paragraph [0296]. Photothermographic material 203 of Oya was chosen as the comparative material since it was considered to be the closest prior art. Comparative photothermographic material Sample 1 contained reducing agent I-1 of Oya which does not fall within the scope of formula (1) of the present invention. It was noted that reducing agent I-1 of Oya also corresponds to comparative reducing agent A disclosed in Table 2 at page 123 of the present invention. Comparative photothermographic material Sample 1 also contained compound II-6 of Oya which does fall within formula (2) of the present invention.
5. Inventive photothermographic material Sample 2 was prepared similarly to Comparative photothermographic material Sample 1, except that reducing agent I-1 of Oya was replaced by an equimolar amount of reducing agent 1-1 at page 14 of the present invention. Samples 1 and 2 were each subjected to light exposure and heat development in accordance with the teachings of Oya. Samples 1 and 2 were evaluated similarly to

examples of the present invention described at pages 124-127. Results of these evaluations are shown in Table 3.

Table 3

Sample No.	Unaged Sample						Image Lasting Quality (783 nm)			Remarks
	Fog (783 nm)	Sensitivity		D <sub>max</sub>		h <sub>ab</sub> (783 nm)	D <sub>min</sub> (%)	D <sub>max</sub> (%)	h <sub>ab</sub>	
		783 nm	787 nm	783 nm	787 nm					
1	0.235	100	80	100	81	188	155	78	155	Comp.
2	0.195	115	108	114	107	202	106	91	205	Inv.

6. As can be seen from Table 3, Inventive photothermographic material Sample 2 achieved improved photographic characteristics and superior image lasting qualities compared to Sample 1. For instance, Inventive photothermographic material Sample 2 exhibited enhanced sensitivity, higher maximum density and improved fogging which resulted in stabilized sensitivity and maximum density of the outputted images compared to Comparative photothermographic material Sample 1.

7. I believe that one of skill in the art would find these results surprising and unexpected.

8. Comparative photothermographic material Sample 3 and 5 were respectively prepared in accordance with photothermographic materials 1 and 7 disclosed in Table 1 at paragraph [0273] of Fukui. Photothermographic materials 1 and 7 of Fukui were chosen as comparative materials since they are considered to be representative of the prior art. Comparative photothermographic material Samples 3 and 5 contained reducing agent 1-1 of Fukui which does not fall within the scope of formula (1) of the present invention. It was further noted that reducing agent 1-1 of Fukui corresponds to comparative reducing agent A disclosed in Table 2 at page 123 of the present invention. Comparative photothermographic material Samples 3 and 5 also respectively contained compounds 2-3 and 2-35 of Fukui which fall within formula (2) of the present invention.

9. Inventive photothermographic material Samples 4 and 6 were respectively prepared similarly to Comparative photothermographic material Samples 3 and 5, except that reducing agent 1-1 of Fukui was replaced by an equimolar amount of reducing agent (f) disclosed at page 22 of PS '266. Samples 3-6 were exposed and

processed in accordance with the teachings of Oya. Samples 3-6 were then evaluated similarly to examples of the present invention described at pages 124-127. Results of these evaluations are shown in Tables 4 and 5.

Table 4

Sample No.	Unaged Sample						Image Lasting Quality (810 nm)			Remark
	Fog (810 nm)	Sensitivity		D <sub>max</sub>		h <sub>ab</sub> (810 nm)	D <sub>min</sub> (%)	D <sub>max</sub> (%)	h <sub>ab</sub>	
		810 nm	814 nm	810 nm	814 nm					
3	0.230	100	82	100	80	190	150	82	160	Comp.
4	0.180	120	117	121	119	220	102	95	225	Inv.

Table 5

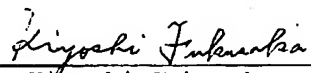
Sample No.	Unaged Sample						Image Lasting Quality (810 nm)			Remark
	Fog (810 nm)	Sensitivity		D <sub>max</sub>		h <sub>ab</sub> (810 nm)	D <sub>min</sub> (%)	D <sub>max</sub> (%)	h <sub>ab</sub>	
		810 nm	814 nm	810 nm	814 nm					
5	0.230	100	80	101	82	193	151	81	165	Comp.
6	0.180	122	118	121	118	225	103	96	220	Inv.

10. As illustrated in Tables 4 and 5, Inventive photothermographic material Samples 4 and 6 achieved improved photographic characteristics and superior image lasting qualities compared to Comparative Samples 3 and 5. For instance, Inventive

photothermographic material Samples 4 and 6 exhibited enhanced sensitivity, higher maximum density and improved fogging which resulted in stabilized sensitivity and maximum density of the outputted images compared to Comparative photothermographic material Samples 3 and 5.

11. I believe that one of skill in the art would find these results surprising and unexpected.

It is declared by undersigned that all statements made herein of undersigned's own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the U.S. Code; and that such willful false statements may jeopardize the validity of this Application or any patent issuing thereon.

  
Kiyoshi Fukusaka

Dated: This 22th day of March , 2005.